

**INVESTIGATING THE EFFECTIVENESS OF ONLINE SOCIAL MEDIA IN  
INFLUENCING HIV RISK PERCEPTIONS OF YOUNG WOMEN IN SOUTH  
AFRICA RELATED TO AGE-DISPARATE RELATIONSHIPS**

by

**ELIZABETH JEAN ARMSTRONG**

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**SUPERVISOR: Mr Leon Roets**

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## **DECLARATION**

I declare that INVESTIGATING THE EFFECTIVENESS OF ONLINE SOCIAL MEDIA IN INFLUENCING HIV RISK PERCEPTIONS OF YOUNG WOMEN IN SOUTH AFRICA RELATED TO AGE-DISPARATE RELATIONSHIPS is my own work and that all the sources that I used and quoted have been indicated and acknowledged by means of complete references.

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EJ ARMSTRONG

24 February 2017

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## **ABSTRACT**

The study investigates the influence of online and social media in HIV prevention, with a focus on young women and HIV risk perception related to age-disparate relationships. The study was conducted using an existing online prevention HIV prevention platform by means of a self-administered online questionnaire. Convenience sampling was used to recruit between 250 and 500 users between the ages of 18 to 24 years. The results revealed poor HIV risk perception in 46% of respondents, which seemed influenced by their perception (38%) that older men are safer sexual partners than younger men. In addition, this poor risk perception is seemingly influenced by the fact that many young women (77%) involved in these relationships, viewed these as primarily based on love and affection and as being “safe”, challenging the commonly held perception that these are primarily transactional in nature. Further respondents reported at rates of between 38% and 44% that the platform had improved their HIV risk perception related to these relationships. In summary, the research resulted in several recommendations to improve the platform, including improving ways of getting more and on-going feedback from users on their HIV risk perceptions and designing content and engagement strategies to address these.

**Keywords:** HIV risk perception, age-disparate relationships, online social media, young women, sugar daddy

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## **Chapter 1: SITUATING THE RESEARCH PROBLEM**

### **1.1 Introduction**

According to the UNAIDS Gap Report (2015:18,31-32), South Africa accounts for the highest number of new HIV infections globally (16%), with 40% of these occurring in adolescent girls and young women aged 15 to 24 years. This increased risk is largely attributed to gender inequalities that drive factors such as gender-based violence and poor access to services including education, social protection and health. While the reasons for this increased HIV risk in young females are varied and complex, it is clear that more evidence-based interventions addressing gender inequality within the pandemic is needed (UNFPA 2014).

As pointed out by Leclerc-Madlala (2008:17-25), one of the key drivers of this vulnerability in Southern Africa is cited as age-disparate sex. Young people aged between 15 and 24 years, who have older sexual partners, have higher HIV prevalence. Irrespective of age or gender, having an older sexual partner is considered an HIV risk factor (HSRC 2014:66-69). The results of this study seem to support these findings, with 50% of young women reporting being involved in age-disparate relationships and almost half of these reflecting poor HIV risk perception in this context.

Trend analyses of data from the Human Sciences Research Council's (HSRC) South African Household Surveys on National HIV Prevalence, Incidence and Behaviour Surveys in 2005, 2008 and 2012 showed that there was a steady increase in age-disparate relationships in females aged 15 to 19 years, and that it did not seem to be a significant factor among their male counterparts. One third of all female adolescents aged between 15 and 19 years (33.1%) reported having had an older partner (more than five years their senior), compared to only 4.1% of their male counterparts. This means that females are eight to nine times more likely than their male peers to have an older sexual partner, which is a significant factor in their increased risk (HSRC 2014:57, 60, 66-69). This



phenomenon may to some extent be explained in terms of the structural gender inequalities espoused by Feminist theories (Amaro 1995:437-447). As young women are more likely than males their age to engage in this high risk behaviour, Feminist thinking provides, at least in part, theoretical assumptions that explain this gender difference; this research draws on these theories in terms of design as well as understanding and interpreting some of the results. These relate mainly to unequal gender roles and norms that support the notion that women acquire status and power through their relationships with men. Often older men provide this more readily than younger men, who have not yet had opportunities to acquire status or assets to the same extent. In these relationships, older men are in many cases more dominant and often reduce their younger female partners' ability to protect themselves against sexually transmitted disease including HIV (Amaro 1995:437-447), as outlined further in Chapter 2.

This disparity between males and females in terms of age-disparate relationships has relevance for HIV prevention programming in the broader sub-Saharan region, as highlighted by a study conducted by Suzanne Leclerc-Madlala (2008:17-25) of over 8000 men in Botswana, in which she found that the greater the age difference, the greater the association with unprotected sex and HIV infection.

This study focused on HIV risk related to age-disparate sexual relationships, often referred to as the 'sugar daddy' phenomenon. It measured specifically how technology, in the form of online social media, may be used to communicate and influence HIV risk perception in young women, as far as their involvement in relationships with older men is concerned. It focused on how young women used and responded to one such online HIV prevention intervention named **Choma**, developed by the researcher while working for non-profit organisation HIVSA. The organisation aims is to improve access for vulnerable and at risk communities to HIV prevention and treatment services, including the use of technology.

## **1.2 Background to the study**

The 2012 HSRC South African Household National HIV Prevalence, Incidence and Behaviour Survey shows that television was the most effective medium identified by respondents across all age groups as having had a significant and consistent influence on their knowledge about HIV. Among those aged between 12 and 14 years there was a considerable decline from 2005 to 2012 in the effectiveness of radio and print to get pre-adolescents to take HIV and AIDS seriously (HSRC 2014). While traditional mass media (print, television and radio) have played a critical role in disseminating information and prevention messages around HIV, the last decade has seen the emergence of increasingly innovative means of HIV prevention and awareness campaigns. These campaigns make use of contemporary information and communication technologies including cellphones, Internet and social media platforms, which have fundamentally changed the way in which we communicate (Drushel 2013:1230-1249).

According to the World Health Organization (McNab 2009:566), access to Information and Communication Technology (ICT) including online social media, is growing worldwide, and where Internet access is low, the rapid growth of cellphone and other devices using broadband provides access. Four billion people have mobile phones globally, with two thirds of these in developing countries, and with the fastest growth of ICT occurring in Africa (African Mobile Observatory 2014). This growing access to ICT and social media has transformed the way that people communicate. Most notably, being the shift away from one-directional communication, which is consumed by users, to where users play an active role in commenting, sharing and even creating content. Health institutions worldwide such as Health Ministries, can now communicate directly with the public, avoiding the traditional media filter (McNab 2009:566). Social Media, including online websites and online social networks such as Choma included in this study, are a relatively new and evolving field in HIV prevention. Research is needed to understand how this new field can be used effectively to reduce HIV risk of infection by creating

awareness, informing and influencing perceptions. While still useful, traditional media such as print, television and radio have certain limitations, and communication strategies need to include online and social networks to remain relevant and effective.

### **1.3 The research problem**

Young women are at increased risk of HIV-infection and there is a need for more effective HIV prevention and communication programmes and strategies targeted at this group (UNFPA 2014). The traditional communication strategies such as print and radio may now prove to be less relevant and less effective than in the past, especially in younger cohorts. This is due, in the main, to the development of new communication technologies such as cellphones, Internet and social media, and changes in the ways in which one communicates when using them.

Cugelman, Thelwall and Dawes (2011) undertook a systematic review of 1271 abstracts and papers on the use of online intervention in social behaviour change and found that, while these new technologies such as Choma offer greater reach, interactivity and cost-effectiveness, few evidence-based guidelines or impact data exists to support this. While the use of the new technologies mentioned above may provide for innovation in HIV programming, there is limited evidence to support that they can be used effectively in HIV prevention and communication strategies. In the following paragraphs an overview of some of the current research for and against this position is presented and reflects that, while some evidence exists for the effectiveness of online HIV prevention, there is a growing need for more research to support effectiveness in a fast developing sector.

Various researchers such as Drushel (2013:1230-1249); Ems and Gonzales (2015:1-18); Jung, Arya and Viswanath (2013); and Van Zyl, Visser, Van Wyk and Laubscher (2014:746-754) have found that, while traditional media fulfils a necessary role, it has limitations, especially in younger aged cohorts who are increasingly exposed to new communications technology. Traditional media are

seen as having structural barriers in that, they are often costly, delayed, unevenly distributed and subject to the whims of gatekeepers. They provide evidence for the effectiveness of using online and social media in adolescent HIV programming for the ability to promote social capital. Peer engagement in online spaces encourage communication and knowledge uptake, and these do not have the structural barriers mentioned above and experienced in traditional communication settings.

Ems and Gonzales (2015:1-18) note that there is a need for new types of communication that listen to members of the target group and engages them in conversation. Drushel (2013:1230-1249) also highlights the fact that online and social networks are well positioned to provide support to often hard-to-reach and high-risk groups and have done so successfully with men-who-have-sex-with-men, which is well documented.

It is on this theoretical foundation that online interventions such as Choma have become more and more prevalent, and while promising, many researchers would argue that more evidence is required to talk to how these interventions are best implemented to be effective (Rietmeijer and Shamos 2007:65-73; Muessig, Pike, Le Grand and Hightow-Weidman 2013). These researchers note that despite the proliferation of mobile phone applications for care and prevention of HIV, with over 1937 included in their study, many have failed to attract user attention or positive reviews. They recommend that public health practitioners and developers need to improve inclusion and participation within these applications, based on evidence that supports risk reduction.

The Choma online and social media platforms were launched in 2013 and target adolescent girls and young women aged 15 to 25 years with HIV prevention communication, with preliminary evidence indicating that it has a positive influence in terms of HIV risk reduction (HIVSA Annual Report 2014). As the platform grows, both HIVSA and its investment partner Charlize Theron Africa Outreach Project have an interest in understanding how Choma

influences HIV risk perception in adolescent girls and young women. In particular there is a need to identify and address key behavioural drivers of HIV risk in this group such as age-disparate sex. There is increasing focus in the HIV prevention sector and more generally in the media and in public perceptions and this is an area that needs to be better understood and requires more effective intervention to reduce risk in adolescent girls and young women. The *Mail & Guardian* newspaper article dated 15 June 2012 “Sugar dads not a sweet proposition” documents these notions, where inter-generational sex is equated with transactional sex and is defined as a ‘relationship between a young woman and an older man in which sex is traded for material goods’.

#### **1.4 Purpose of the study**

This study investigated and provides evidence on the influence of the Choma intervention on HIV risk perception in young women, and solicited various recommendations for the improvement of interventions such as Choma.

#### **1.5 Objectives of the study**

The main objectives of this study are identified as follows:

- To investigate perceptions among young women that used Choma, related to age-disparate sex and HIV risks;
- To investigate how Choma may have influenced HIV risk perception of adolescents and young women; and
- To make recommendations for the improved effectiveness of Choma.

#### **1.6 Research questions**

The research questions identified are as follows:

- What are the perceptions of young women using Choma related with age-disparate relationships with older men and HIV risks?
- Has Choma influenced this risk perception or supported risk reduction in the perceptions of these young women?
- What are the recommendations for improving the Choma intervention?

## **1.7 Summary of research process**

Based on the successful use in similar research (Kaufman, Herashow, DeCelles, Bhauti, Dringus, Wallace, Delany-Moretlwe and Ross 2013:89) and previous Choma evaluations, as outlined in Chapter 3, the research adopted a quantitative methodology by means of an online self-administered questionnaire of Choma users between the age of 18 and 25 years on its Facebook platform.

Validating the questionnaire involved a pre-test phase with an offline focus group of 8 users, which allowed for questions to clarify understandings of the participants. The proposed sample size of between 250 and 500 users was set based on the anticipated usage on the online platform being between 5 000 and 10,000 users over the 6-week data collection period and using a range of between 2.5 and 5% of users as a sample. The convenience sampling method explained in more detail in Chapter 3 was used and all the users (including active, non-active and new platform participants) were invited to participate on the Choma Facebook page.

Data collection took place over a 6-week period, with a total of 268 users responding to the online questionnaire. Only 122 of the questionnaires were returned in the final sample due to issues of age, consent and completion. Of the initial 266 respondents, some indicated their age as being under 18 years, others failed to indicate consent or stopped responding altogether, and these were excluded from the sample. The smaller than expected sample size is considered a limitation of the study and will be further commented on in subsequent chapters. More details on the limitations of the study will be provided in Chapters 3 and 5.

## **1.8 Definitions of key terms**

Age-disparate relationships– are relationships where the age difference between the partners is between five and 10 years or more.

Sugar daddy– refers to a man that is older and has a relationship with a younger woman, with an age difference of five years or more. This is a commonly used term, which, while not specific in terms of age difference as stated above, often refers to the transactional nature that may exist in a relationship with age disparities.

Online social media– refers to forms of electronic communication such as websites for social networking and micro-blogging, through which users create online communities to share information, ideas, personal messages, and other content such as videos i.e. Mxit, Twitter, Facebook, MySpace etc.

HIV prevention communication / programmes– This refers to practices undertaken to prevent the spread of HIV, mainly aimed at reducing behaviours that put people at risk of HIV infection. While this could involve a number of interventions such as education or counselling etc., in this context the focus is on behaviour change communication which promotes tailored messages, personal risk assessment, greater dialogue and an increased sense of ownership of the response by the individual and the community. It is developed through an interactive process, and its messages and approaches use a mix of communication channels to encourage and sustain positive, healthy behaviours.

Risk perception– Risk is defined as the risk of exposure to HIV or the likelihood that a person may acquire HIV. Risk perception is the subjective judgement people make about the characteristics and severity of their likelihood of being HIV-infected when engaging in certain behaviours.

Young women– In this context, young women are women aged between 15 and 25 years of age, but note that the age of the respondents included in the study was between 18 and 25 years.

### **1.9 Conclusion**

This chapter briefly introduces the problem of the “feminized” HIV epidemic and the role that age-disparate relationships have in driving this. It further outlines the purpose of the research, which is aimed at examining HIV risk perception in young women aged between 18 and 25 years, and the possible role that online social media, such as Choma, may play in influencing this.

Chapter 2 reviews the current literature that informs this research dealing with some of the key drivers of age-disparate HIV risk in young women and the role that online and social media is envisaged as playing in the mitigation of this risk. In addition, it introduces and overviews the Choma platform and speaks to how Feminist and empowerment theories provide a framework for understanding both risk and possible mechanisms for addressing this risk.

Chapter 3 outlines the quantitative methodology and design used in this research, while Chapter 4 summarises key results. The final chapter concludes with an interpretation and recommendations arising from these results.



## **Chapter 2: LITERATURE REVIEW**

### **2.1 Introduction**

In this chapter an outline of some of the current literature on the risk of HIV infection in young women is summarised, with a focus on the role that age-disparate relationships play in the vulnerability of young women to HIV infection.

Certain theoretical assumptions made by Feminist and empowerment theories are outlined in an attempt to provide some insight into the key assumptions underlying the research and to assist in a better understanding of the research design and its results. This leads to a discussion of some of the key assumptions made regarding empowerment and the importance of this for girls and young women, in addressing their increased HIV risk and its application in this research.

In addition, this chapter provides an overview of the literature and similar research on how online and social media networks are currently being used to address this risk and vulnerability to HIV infection. In conclusion we consider an overview of HIVSA (which has developed and maintains the online HIV prevention platform) and of the online platform Choma.

### **2.2 Disproportionate HIV infection risk of adolescents and young women**

As introduced in Chapter 1, there are multiple and complex determinants of HIV risk and infection among young women, including socioeconomic and physiological vulnerability, inequalities in education and economic opportunities, early sexual debut, multiple sexual partners, poor condom use, vulnerability to intimate partner violence, as well as age-disparate sexual relationships between young women and older men (Datta, Burns, Darling, Eyal and Maughan-Brown 2015:184-198; Jewkes and Morrell 2010:13-6; UNFPA 2014).

According to the UNFPA (2014), as much as 20% of girls aged between 15 and 19 years report being involved in age-disparate relationships with men five years or more their senior. Various studies outlined below highlight that age-disparities in sexual relationships, seemingly exacerbated by gender inequality, play a significant role in the ability of young women to negotiate safer sex and increase their risk of unplanned pregnancies and sexually transmitted infections, including HIV.

### **2.2.1 Influence of gender and age of sexual debut on age-disparate relationships**

As early as 2001, Laga, Schwartlander, Pisani, Sow and Carael (2001:931-934) noted increased HIV prevalence among girls and young women aged between 14 and 24 years in a Carletonville (a South African mining community) survey, where HIV infection was 9% in males and 34% in females. This gender difference appeared to be most likely explained by relationships between younger women and older men who are already sexually active and HIV-exposed. This was based on their observation that sexual debut for boys and girls was observed to be around the same time. According to the HSRC (2014:66) South African National Household HIV Prevalence, Incidence and Behaviour Survey, sexual debut under 15 years is 16.7% in boys and 5% in girls, which suggests that sexual debut occurs earlier in boys than girls. While the more recent data may contradict Laga et al (2001:931-934) and suggests that boys may sexually debut earlier than girls, it continues to support the fact that it is not the age of debut that drives the gender imbalance, but rather that young women are having sex with older HIV-exposed partners, that puts them at increased HIV risk.

Subsequent to these early findings, many others acknowledge the role of gender and age-disparate relationships in the increased HIV risk for adolescent girls and young women. Gupta (2002:183-184) noted this gender imbalance early on, not only in South Africa but also in India. More recently, Jewkes and Morrell (2012:1729-1737) argue that the epidemics of gender violence interact to fuel the HIV epidemic and that women, subject to gender inequalities, are

more likely to be HIV sero-positive. While the multi-dimensional role of gender is often highlighted in HIV risk, Shisana, Rehle and Simbayi (HSRC 2014:67) have found that irrespective of gender, age-disparate relationships are generally a risk factor for HIV, and that women are much more likely to engage in these relationships. This is supported by evidence in the HSRC (2014:68-69) South African National HIV Prevalence, Incidence and Behaviour Survey, which revealed that in the 15-19 year age group, age-disparate relationships were more common in females (33.1%), with them being 8 to 9 times more likely to have older sexual partners than their male counterparts (4.1%).

### **2.2.2 Low risk perception in age-disparate relationships**

In a review of regional studies, Leclerc-Madlala (2002:17-25) found these age-disparate relationships to be common across sub-Saharan Africa and to be associated with unsafe sexual behaviour, low condom use and increased risk of HIV infection. Older men are more likely to be infected and younger women are less likely to negotiate safe sex. Risk perception is often low in these relationships as younger women are viewed by older men as HIV-free, and younger women see older men as safe as they perceive them as more stable, responsible and less prone to taking risks than younger men. In addition to that, the larger the gap in terms of age and the larger the gender imbalance, the more reduced the capacity of young women to negotiate safe sex.

In the South African context, these findings have been supported by Toska, Cluver, Boyes, Pantelic and Kuo (2015:59-66) in their qualitative study of teenage pregnancy in South Africa across six health districts. This study shows that the inability to negotiate condom use in age-disparate relationships is a key driver in teenage pregnancy, and while this study does not focus on HIV infection, it does highlight the lack of agency in these relationships, which also puts adolescent girls at increased HIV risk.

### **2.2.3 Cultural and geographical influences**

In contrast to these findings, however, Harling, Newell, Tanser, Kawachi, Subramanian and Barnighausen (2014:443-451) in a rural Kwa Zulu-Natal (KZN) study of 458 sero-conversions found that, while these relationships were common (37.7%), age disparity did not predict HIV infection. This finding is further supported by Street, Reddy and Ramjee (2015), who in another KZN study of 1355 women found no significant relationship between age-disparate relationships and HIV infection, but rather that this was linked to having multiple partners. This seems to highlight that there may be significant differences between cohesive rural communities, as studied in these cases, and other settings, and may caution research such as this to make assumptions or generalisations beyond the specific context being studied. In addition, these studies do raise the question of how age-disparate relationships might increase risk across socioeconomic, ethnic and cultural lines and how these factors may intersect.

Despite this insight, and while the above studies ask relevant questions that need to be addressed, the substantive and growing body of evidence over more than a decade, reflects that age-disparate relationships are in many settings considered a HIV risk factor.

### **2.2.4 Young women and age-disparate relationships: HIV risk with global implications**

Several American studies (Morrison-Beedy, Xia and Passmore 2013:3289-3297; Volpe, Hardie, Cerulli, Sommers and Morrison-Beedy 2013:2068-2087) reflect similar dynamics at play. In a randomised control trial of 738 urban adolescent girls aged between 15 and 19 years, significant differences were evident in the risk behaviour between girls in relationships with older partners compared to similar aged partners. Overall, the behaviours identified as high risk for HIV, including age of sexual debut, lack of protection during vaginal and anal sex (condom use), multiple partners and STIs were more prevalent in girls with older partners. These findings highlight that girls in these relationships often do not have the communication skills to negotiate condom use and

furthermore perceived their older partners to be more experienced and therefore more knowledgeable regarding sexual risk. Based on these results this study aimed to establish young women's HIV risk perception related to age-disparate relationships and the possible influence on these by social media interventions such as Choma.

### **2.3 A Feminist approach: Implications for the role of empowerment of girls and young women in reducing HIV risk**

As pointed out by Suzanne Leclerc-Madlala (2008:17-25), initial studies highlighted the economic concerns related with these relationships. However, close-grained studies reveal a complex interplay of meanings and motives across social economic strata that motivate both men and women to engage in these relationships. She points out that the benefits of these relationships often outweigh the risks of HIV. While young women display agency to act in their best interest in various areas of their lives, this agency seems to be reduced when it comes to sexual and intimate relationships, which are then exacerbated by age. In particular, in intimate relationships, there seems to be a tendency for some young women to have reduced agency (capacity to act independently), which leads to them engaging in behaviours that they often know carry risks including that of HIV infection. In addition, young women are often more concerned about becoming pregnant or being found out than about contracting an HIV infection. Relational benefits are sometimes seen as outweighing the possible risks of HIV, even when awareness and knowledge are both high. These extend beyond mere economic considerations: these relationships are valued by young women as opportunities to improve social mobility by securing better jobs, studying or becoming more financially independent. Other incentives are the emotional benefits of receiving love, affection and affirmation.

In an attempt to understand how agency (capacity to act independently) in age-disparate relationships may be reduced or influenced by economic, social or emotional factors, it is important to explore how agency is viewed and relevant in this context. Traditionally agency and the ability to act independently, has been seen as being mediated between social forces and the extent to which

these influence the individuals' ability to make choices and take action. Various thinkers such as Archer and Perez challenge the dualistic approach of earlier theorists, such as Giddens and Bourdieu, who gravitated towards seeing either person centered or structural forces as dominant, in explaining why people act and to what extent they have agency. Perez (2008) and others argue that there is a need for a more balanced view of the role that individual and structural factors play in influencing agency and that overemphasising one or the other is problematic in understanding human behaviour. As outlined by Archer (2000) "the intermediate position where structure and agency conjointly determine society's trajectory" is often passed over. In the context of this study this debate is brought to life by the above findings, in which Lerclerc-Madlala (2008:17-25) found that while, agency of young women is displayed in various areas of their lives, in many cases this seems to be reduced in sexual relationships with men, especially older men.

Various studies have found that young women in some cases seem to view themselves not as victims, but as active decision makers, choosing these relationships to gain social, economic, psychological and symbolic benefits (Hawkins, Price and Mussa 2009:169-182; Jewkes and Morrell 2012:1729-1737; Leclerc-Madlala 2008:17-25; Nkosana and Rosenthal 2007:181-187; Potgieter, Strebel, Shefer and Wagner 2012:197). This highlights the complex interplay between gender, age disparity and perceived relationship benefits, which when balanced against (often known) risks, put adolescent girls and young women at increased risk of HIV infection. These findings suggest that despite these young women seeing themselves as active decision makers, who would describe themselves as having agency, there are a number of gender and structural forces that limit their ability to adopt safe sexual practices, especially with older partners. As pointed out by Campbell (2003) many HIV-prevention interventions fail as they do not appreciate the dynamics that shape human action. She posits that development projects need to work on creating health-enabling communities rather than trying to persuade individuals to change their behaviour. Ultimately arguing that both the micro and macro level

factors that influence behaviour, need to be considered in these types of interventions.

#### **2.4 HIV the “feminized epidemic” and the role of Feminism in HIV prevention for women**

Feminists have argued that traditional gender norms and hegemonic dominance of males over females, have been a barrier to women's sexual wellbeing. In particular, they argue that HIV prevention has traditionally ignored how gender and the social status and roles of women have affected sexual risk behaviours and has reduced women's ability to protect themselves against sexually transmitted diseases, including HIV (Amaro 1995:437-447).

Many researchers highlight the need for Feminist-based empowerment approaches in understanding and addressing HIV risk and infection in women (Amaro and Raj 2000:723-749; Amaro, Raj and Reed 2001:324-334; Corby, O'Farrell, Podmore and Sepulveda Zelaya 2007:57; Doyal, Naidoo and Wilton 2010:1473-1474; Schick, Zucker and Bay-Cheng 2008:225-232). These views hold that women were initially overlooked in HIV prevention strategies and were later viewed as vectors of the disease, but the data reflects that male-controlled and social powered sexual relationships increased the HIV risk for women, especially those marginalised by poverty, drug addiction, disability or sex work etc. Jewkes and Morrell (2010) found that in the South African context the dominant ideal for men emphasises strength and sexual success. While desirable to women it is sexually risky and a barrier to men engaging with HIV services. Hegemonically masculine men are expected to control and dominate women and violence may be used to do so. The dominant female ideal of femininity embraces compliance and tolerance for violent or hurtful behaviour such as infidelity. These women lack control of sexual encounters and are at an increased risk of HIV. Men and women who adopt these identities are modelling behaviour with deep social and cultural roots, making these behaviours hard for individuals to critique and to exercise choice. This means that gender identities and the social construction of these need to be

addressed, without which a focus on individual sexual behaviour will have limited value in the context of HIV prevention.

These views have received critique by some who point out that gender is moderated by other factors. Bowleg, Belgrave and Reisen (2000:613-635) found that, while education significantly predicted sexual self-efficacy resulting in HIV prevention strategies being adopted, in the case of married or partnered women they often perceived themselves to be at low risk. In this context, gender became inconsequential and risk perception played a larger role in determining the adoption of safe or sexually risky behaviour than gender roles did.

Others further propose that “AIDS Feminism” and the paradigm of vulnerability based on gender, while useful in revision of views early on in the epidemic, have limitations and that there is a need for an expanded model that takes into account how biology, ethnicity, class, gender inequality and roles as well as social structures intersect to determine vulnerability to HIV (Bredstrom 2006:229-243; Fourie 2006; Higgins, Hoffman and Dworkin 2010:435-445).

However, these contrasting views do not deny the reality of gender playing a significant role in HIV risk; rather they highlight that gender does not exist within a vacuum and is moderated by various biological, social and cultural factors. The understanding of this complexity enhances the manner in which we view possible solutions and how we consider the role of empowerment within this context. It is therefore critical that a better and multi-faceted understanding of HIV risk perception is developed through research initiatives such as this one.

## **2.5 Empowerment is key to addressing HIV risk in young women**

Empowerment is the process of enabling people to gain control over their lives and the factors that influence their development and wellbeing (UN Social Development 2012). In the context of adolescent girls and young women it is acknowledged that, while there are many drivers of HIV risk and infection, it is gender inequality and the lack of agency for this group that cut across and compound such risk. One of the five key recommendations by UNAIDS (2014)



to fast-track the HIV response is to improve the agency of this group. While gender equality is included in many national strategies, a survey of 104 countries found that only 57% had allocated resources to this and that the underlying structural gender inequality drivers that exacerbate adolescent girls and young women's physiological vulnerability are often ignored.

Empowerment initiatives in various development contexts such as human rights, gender equality, economic enhancement and health promotion are prolific and successful to varying degrees. A meta-analysis of 40 case studies conducted by Kar, Pascual and Chickering (1999:1431-1460) revealed that the most frequently and successfully used methods to facilitate empowerment are education and training, media use and advocacy, public education and participation, organising associations and unions, work training and micro-enterprise. Johnson (2011:265-269) notes that a model of patient empowerment in health care, while not without challenges, is increasingly used to improve health outcomes. While the definitions, contexts and effectiveness of empowerment initiatives vary greatly, it is acknowledged that development initiatives do better when they are participatory and work to improve agency of participants and communities.

Relevant to this study are education, media and participation, as these methods of empowerment are the focus of many online and social media interventions, including Choma. In particular, they use online and social media for sharing with, informing, educating and communicating with individuals who then have the ability to interact, comment, share and discuss with their peers. While not new to empowerment work, these methods when used online, allow for greater reach and engagement, facilitating a two way communication that extends beyond a set time and place, and includes an audience beyond those initially targeted.

Empowerment in this context is seen as the process of enhancing an individual's capacity to make choices and then transforming those choices into

the sought-after outcome (Alsop, Bertelsen and Holland 2006:10-23). This and much of the current thinking on empowerment theory is based on the work of Zimmerman, Israel, Schulz and Checkoway (1993), which holds that empowerment is essentially an active process of change to gain control over one's life. It is seen as a multi-level process that may be applied to individuals, organisations, communities and social policy. It is widely acknowledged that individual empowerment is required for community level changes to take place. This individual level is further seen as having an internal (internal belief and locus of control) and an external (ability to act) component and that these components need to be integrated for empowerment to happen. Combining empowerment of the individual with groups is seen as broadening the possibility for empowerment. Individuals in groups established for purposes of empowerment, often give and receive help from others and develop increased self-confidence and skills including developing the ability for public action, i.e. it builds the individual's ability to act together with others to create a community (Sadan 1997).

The Choma online intervention is based on the above notions of empowerment and deals at the first level with individual empowerment, with the main purpose being to empower young women to make rights-based, well-informed and safer sexual reproductive health (SRH) choices. This is done in part by supporting more accurate risk perception and informed access to services, which supports safer sexual behaviour and reduces HIV risk. At an individual level this is done by educating and informing young women on their rights, as well as how they can go about exercising these rights by accessing SRH services and support. In addition, the Choma intervention provides users with support and encourages young women to engage with Choma online and to ask for further information or online counselling support.

The intervention also motivates individuals to critically engage and debate issues with peers, which in turn connects and influences others through the use of this social media. Empowerment is therefore also supported at a group or

community level and the Choma intervention enables an active online Choma community that supports individuals. Choma is aimed at creating a communication network that empowers young women by improving their knowledge and influencing their perceptions, attitudes and behaviours that relate to reducing the risk of HIV infection. This is done by creating dialogue and debate between Choma and users and users themselves, to challenge risk perceptions and provide access to accurate information on HIV risk and SRH services and how to access these. Overall communication is aimed at influencing knowledge, attitude and behaviour change outcomes related to delayed sexual debut, improved HIV risk perception, increased demand for HIV Testing, increased negotiation of condom use, increased STI care-seeking behaviour, reduced number of sexual partners and increased demand of SRH services, including contraception.

The Choma empowerment model is conceptualised not just as intrapersonal (within one person) but also as interpersonal (between different persons) within a social space, albeit an online space. Creating a ‘Social Container’ or a safe interaction space (McClure, McFarland and Legins 2014:224-227), and offering privacy, confidentiality and community, has been key to ensuring the success of HIV prevention initiatives for young girls and adolescents. A structured literature review of control-comparison studies conducted by McClure et al (2014:224-227) directed at girls in low-income and middle-income countries from 1995 to 2013, found that more than half of the 49 interventions that demonstrated impact had included these spaces as part of their programmes. In the context of Choma, this model has been adopted and it aims to both influence individual knowledge, attitudes and behaviours and create a “Social Container” referred to above in which peers are able to relate to and influence one another.

While empowerment is aimed at the interpersonal and intrapersonal levels as articulated above, the focus of this study is on the individual rather than the interpersonal level. In particular, this study investigates the level of individual

HIV risk perception among young women involved in age-disparate relationships. The results of the study also provide some evidence that the Choma intervention plays a positive role in influencing young women's perceptions in terms of HIV risks and supports risk reduction.

## **2.6 Using online and social networks to address issues of HIV risk and vulnerability**

As highlighted in Chapter 1, traditional media such as print, radio and television have been found to be increasingly less effective in younger age groups, and communication aimed at adolescents needs to be innovative and embrace the latest information and communication technologies such as digital and social media. Social networks are not only important in terms of diffusing messages, but also because they form a social hub where identities and real-world behaviours are being shaped (Ybarra, Mwaba, Prescott, Roman, Bronwyn and Bull 2014:1562-1567). South African teenagers, even in lower living standard measures (LSM) groups, are living increasingly online. The use of mobile applications on phones has shot up from 24% in 2012 to 43% in late 2013, and is expected to continue to accelerate according to the African Mobile Observatory Report (2014). They further report that with more than 59.5 million mobile phones in South Africa (South Africa's population is estimated at 54.9 million people, as per Statistics South Africa), it is clear that this has become an important means of communication and has the potential to change the face of how we communicate.

With near-universal mobile ownership, more South Africans use their mobile phones to access the Internet than use traditional desktop means, particularly in resource-constrained communities (Calandro, Stork and Gillwald 2012:34-51; Donner, Gitau and Marsden 2011:574-597). The high levels of online access via mobile phones across LSM groups, means that there is great potential for HIV prevention programming through digital mechanisms.

Recent research by Ybarra et al (2014:1562-1567) as undertaken by the University of the Western Cape in collaboration with the Centre for Innovative

Public Health Research (California), looked into opportunities for technology-based HIV-prevention programming among high school students in Langa, Cape Town. This survey was conducted with students from public schools. It was found that technology use is common among high school students who live in lower-income communities. Of the 1107 respondents, 86% reportedly go online. The Langa survey showed that the youth were already more keen to access HIV programming through an online platform than via short message services on mobile phones (SMS). According to said study, if an HIV prevention programme was offered online, 66% of youth would be 'somewhat' or 'extremely likely' to access it.

The Langa study also revealed that young people were tired of hearing messages about HIV prevention, with many of the typical topics key to HIV prevention generating low levels of interest. As a result, this research recommended that the use of technology and its novelty can increase interest and engagement with HIV prevention programming, especially among young people (Ybarra et al 2014:1562-1567).

Various other studies support the use of mobile phones and online platforms, or social networks in health and HIV prevention. Young and Rice (2010:253-259) found in their study among homeless youth in Los Angeles, using online social media to talk about sex with the aim of improving knowledge and reducing risky behaviour, was associated with increased knowledge about HIV, increased testing for STIs and a decrease in exchange sex. This study was further supported by Young and Jaganath (2014:310), who found in a study of men who had sex with men that the use of Facebook to share and discuss information related to HIV prevention and testing was much more likely to result in HIV testing than with those that did not participate.

The above-mentioned researchers tested how the online social network Facebook influenced health behaviour and social norms in college students, and found that those exposed to sexually explicit content on this network,

estimated that a larger number of their peers engaged in unprotected sex and reported themselves to be more likely to engage in unprotected sexual intercourse with strangers, than those that were not exposed. The researchers suggest that the power of social media to affect health behaviours, by influencing peer norms, is significant.

Based on the opportunity for online social media in terms of reach, interactivity and cost-effectiveness, there is growing support for this, but while promising, peer-reviewed studies do caution that little evidence-based guidelines or impact data exists and that there is a need to develop this aspect (Cugelman et al 2011:1-21; Young and Jaganath 2014:310; Young and Jordan 2013:243-247; Young and Rice 2010:253-259).

Others are even more sceptical of these methodologies and point out that, despite hundreds of interventions being available, most have failed to attract user attention and positive reviews, and present little or no evidence of positive effects on sexual behaviours (Rietmeijer and Shamos 2007:65-73; Muessig et al 2013:1-13). They do, however, all agree that more evidence is needed if HIV programmers are to use these interventions more effectively. This position is supported by Gold, Pedrana, Sacks-David, Hellard, Change, Howard, Keogh, Hocking and Stooze (2011:583), who undertook one of the largest reviews of 178 sites and found that Facebook was the most commonly used (71%), followed by MySpace and Twitter. The study found large variances between how these sites were being used and activity levels, and identified a need to develop an understanding of how these sites were influencing knowledge, perceptions and behaviours. It further called for evidence-based applications to examine the success factors of sites attracting large and active user bases to guide the development of future interventions in this setting, which was also used in formulating some of the research questions in this study.

This study aims to investigate one such interventions' influence on perceptions related to age-disparate relationships and HIV risks among young women.

Interventions of this nature are relatively new, while also being varied in purpose, design and the manner in which they are evaluated, and as highlighted above, this makes benchmarking difficult with a need for evidenced-based and uniform measurement tools to measure efficacy. As pointed out above, numerous researchers caution that despite the vast potential of online and social media, it is a relatively new field of study and there is a need to develop evidence-based guidelines and impact data.

## **2.7 HIVSA and Choma overview**

HIVSA is a South African non-profit organisation established in 2002, with the main aim of improving lives of people and communities infected and affected with HIV and AIDS by increasing access to HIV prevention and treatment services and support. HIVSA does this through various training and development initiatives to build the capacity and resilience of community change agents to effectively address psycho-social and health issues related to HIV and AIDS, and contribute to achieving an HIV-free generation (HIVSA 2016).

HIV prevention among adolescent girls and young women is a key focus for the organisation; HIVSA develops and supports several combination prevention interventions, which include HIV prevention alongside social asset building and families and economic strengthening programmes. Within this context HIVSA has developed an online intervention Choma which uses technology to support their adolescent-friendly HIV prevention approach. Since its inception in 2013, Choma has addressed various HIV risk behaviours and communication aimed at influencing knowledge, attitude and behaviour change outcomes related to improved HIV risk perception, including risk related to age-disparate relationships (Choma Annual Report 2016).

### **2.7.1 Choma overview**

Choma, a South African word meaning 'friend', aims to engage young South African women between the ages of 15 and 25 years, through the platform of an interactive online magazine, accessible on mobile phones. While the digital

magazine seeks to engage user interest in a wide array of popular lifestyle content, the primary purpose of the magazine is to engage young women and girls on HIV and Sexual and Reproductive Health (SRH) issues.

Choma is aimed at engaging with and connecting young women on topics that interest and are important to them – both fun and serious, but with the overall aim of reducing HIV incidence in these young girls and women; it is available on various platforms including Mxit, Facebook, web-based sites and Twitter. The strategy is ultimately based on the principle of empowerment at the individual and the group level, using innovative online and social media technology and engagement as vehicles for this.

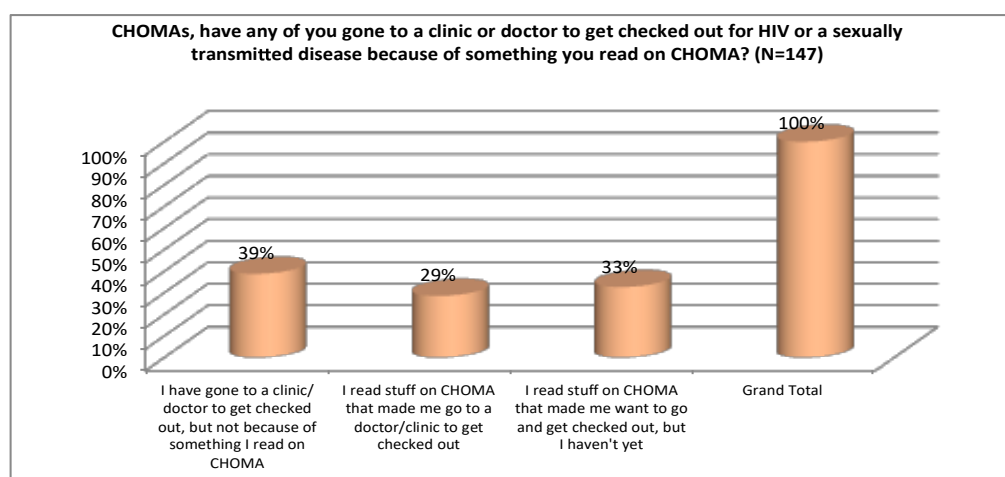
This initiative, while developed by HIVSA, was the result of a partnership between HIVSA and the Charlize Theron Africa Outreach Project, who have funded together with GIZ the initial development and continued operation.

To date, the Choma platforms have reached over 1 000 000 South African users on the various platforms and is developing an evidence base for positive changes in terms of knowledge, attitudes and behaviours related to improving HIV risk perception, increasing demand for HIV Testing and SRH services, increasing the use of condoms, delaying sexual debut and reducing the number of sexual partners. (Choma Annual Report 2016).

An evaluation commissioned by HIVSA in 2014, reflected positively in terms of influencing the above knowledge, attitudes and behaviours. As indicated in the table below, it emerged that 29% of the respondents reported that they had visited a clinic/doctor as a result of something that they had read on Choma. In addition, 33% indicated that they had read something on Choma that made them want to visit a doctor/clinic, but that they had not done so yet (Choma Evaluation Report 2014).



**Table 2.1: Choma users' self-reported influence of Choma on behaviour**



While these findings represented positive results with 29% of users indicating that Choma had influenced their behaviour and 33% indicating it may influence their behaviour in future, this applied to a relatively small sample group, and there is a need for further research with a larger representative sample to provide evidence of the efficacy of Choma in influencing HIV risk perception in adolescent girls and young women.

## 2.8 Conclusion

The current literature highlights that the notion of HIV risk for adolescent girls and women is complex and multi-faceted. It is, however, clear that age-disparate relationships play a significant role in driving this risk and that gender inequalities both sanction and continue to support the status quo. Empowerment of adolescent girls and young women and addressing inequalities are considered key. In the face of ever-evolving technology that changes the way in which we communicate, while promising, there is much debate on the effectiveness of new technologies such as online and social media in being able to address this risk. There is a clear need for evidence to support the role of using online and social media in HIV prevention.

## **Chapter 3: RESEARCH METHODOLOGY**

### **3.1 Introduction**

Based on the successful use of quantitative methodology outlined in various studies of online self-administered sexual behaviour questionnaires (Kaufman, Herashow, DeCelles, Bhauti, Dringus, Wallace, Delany-Moretlwe and Ross 2013:89), the research adopted a quantitative research methodology. This consisted of a self-administered online questionnaire on the Choma platform. Specifically, design and ethical requirements for this type of data collection reviewed by Curtis (2014:58-70) and used by Young and Jordan (2013:243-247) and others, have successfully demonstrated the efficacy of quantitative methods for assessing online data on knowledge, attitudes and behaviours related to HIV risk among vulnerable groups such as the young women in this study. They have further demonstrated how online data collection can facilitate access to sometimes difficult to reach groups (men who have sex with men) on topics that are subject to interviewer bias due to their sensitive nature (sexually risky behaviour).

### **3.2 Research design**

Data for the study was collected by means of an online self-administered questionnaire, as the intervention is based online and this format is the most convenient for users. In order to get as many complete responses as possible, the number of questions was limited to no more than 20 questions to avoid fatigue and repetitiveness. This was based on previous online Choma project surveys, as explained in Chapter 2, which revealed that users, mostly young women, failed to engage with lengthy online surveys which exceeded this length. In addition, the questionnaire was worded in language that was easy to understand and informal, using locally relevant terminology, for example, *Have you ever dated or are you dating an older guy (5 or more years older)?*

The questionnaire was pre-tested with a small group of eight Choma users to test content and context validity. These respondents were excluded from the sample frame and were informed of the upcoming research and asked not to

participate. This focus group was done off-line as the researcher wanted to test the understanding of terms and concepts with the respondents; this required probing questions such as, “What do you understand by the term...” or “Would you be comfortable answering...” While the topic namely context validity and the language used were considered relevant, the group’s feedback did indicate that revisions were needed in terms of key terms as they had varied understanding of “sugar daddy” or what was meant when referring to an older man. Following the focus group, questions were subsequently framed more clearly, for example specifying that an “older guy” was 5 years or more older. Hereafter the questionnaire was revised and formatted into an electronic version, using the Survey Monkey software package, before being embedded within the Choma Facebook platform.

All Choma Facebook users were invited to participate by means of a post on the Facebook page. Those interested clicked on a link that took them through to the letter of invitation and the consent form. If they wished to proceed they were asked to provide informed consent and to confirm that they were aged 18 years or above. Questionnaires were delivered on the online platform, requesting basic demographic information such as age and usage of the platform, as well as perceptions and attitudes towards HIV risk and age-disparate relationships.

### **3.3 Sampling design and procedures**

The sample was drawn from users of the Choma platform which are largely female and South African, with the most users being from the Gauteng Province. The sampling method adopted in this study was that of purposive sampling by inviting participants to partake. This method was used within the existing population of active female Choma Facebook users aged 18 years and older, with those active at the time invited to participate, which may have included both those new to the platform and those that have been active to various degrees in the past. While convenience sampling has limitations, in this closed online context it has the benefit of allowing a range of users (age range and frequency of use) in the target group to responding a cost- and time-

effective manner. During the six-week research period, an invite was placed on the Facebook page on a weekly basis, aimed at all Facebook users who were active during this period. On the Facebook platform this means that, while there was the opportunity for all registered users to see this, only those active at the time of the invite would have done so. There were over 27 000 registered users (page likes) in total at the time; however, it was not possible to establish how many of these saw the invite, as only those that responded would reflect on Google analytics (an online facility that tracks and reports online activity). However, the number of users was estimated based on usage over the past 3 months, which had ranged between 5 000 and 10,000 users per month. It is also important to note that some respondents would have been first-time users and others would have used the platform for various periods of time, ranging from being new to the platform to using it for weeks, months or more.

A proposed sample size of between 250 and 500 users was set based on an anticipated number of 5 000 and 10,000 active users over the period of 6 weeks. A sample size of between 2.5% to 5% was considered adequate for statistical analysis. A total of 266 forms were returned during the 6-week period, but in the end only 122 questionnaires were included in the study sample and were valid for analysis. In view of the limited sample size the aim was not to generalise but rather to provide a descriptive analysis.

### **3.4 Data collection procedures**

Data was collected via a self-administered, online questionnaire. The questionnaire was available on a separate landing page to the Choma Facebook platform. Access was provided through a hyperlink to the separate landing page, which opened onto the letter of introduction and informed consent (Appendix C). Only after reading this and giving informed consent could participants proceed to the actual questions.

Questionnaires were only included in the study sample if the respondent indicated gender as female, age as 18 years or older and provided that informed consent was indicated. In addition, invalid questionnaires were not

included if at any point users stopped responding, as this was taken to mean that they no longer wished to participate as outlined upfront within the informed consent. These 144 questionnaires were started and not completed and were thus not included in the analysis sample. However, it should be noted that this did not apply to those questionnaires in which respondents skipped questions, but continued the questionnaire until the end. In these cases it was assumed that the former decided to withdraw from the process, while the latter still remained engaged but for certain reasons did not respond to all the questions. These were included in statistical analysis and did impact on the reliability of the results; this aspect is commented on in subsequent sections. In and of itself, this information maybe revealing in terms of the questionnaire design, and possibly signifies that certain questions could have been better formulated to elicit a higher response rate.

Within the questionnaires included in the analysis sample, as many as 20% of questions were left blank and this response pattern was consistent throughout, which is not uncommon for online design methods. Several researchers (Heerwegh and Loosveldt 2008:836-846; Fricker, Galesic, Tourangeau and Yan 2005:370-392) have found that when compared with face-to-face, online and web-based surveys often result in more *don't know* (DK) responses, more non-differentiated responses on rating scales, and higher non-response rates; they recommend sequential and mixed-mode design in which web-based surveys are followed by face-to-face surveys to address this data quality challenge. This view has, however, been challenged by others (Atkeson, Adams and Alvarez 2014) who have found that, while a mixed design may address the above issues, the presence of an interviewer may alter response patterns, especially on ego-driven questions and people tend to provide more “desirable” or “acceptable” responses – a problem that does not arise to the same extent in online surveys. In summary, this highlights that while online surveys like this one may be prone to more skipped or (DK) questions, its benefit over face-to-face interviews involving sensitive questions is that it avoids the problem of providing “acceptable” responses.

As a substantial number of questionnaires (144) were not completed (limiting the sample size to 122) and within these almost ¼ of the questions were skipped, while seemingly not uncommon for online surveys, this will possibly influence the usability for statistical analysis. This has then meant that in terms of the data limitations only frequencies, averages and cross-tabulations were possible. This, alongside with the convenient sampling technique used, is likely to limit the ability to generalise findings to the broader audience; however, it still provided a valid base to allow for recommendations to improve Choma.

### 3.5 Measurement of variables

The research aimed to investigate the possible influence of the Choma interventions on the perceptions of young women to HIV risks (Appendix D Questionnaire). The first category of research question related specifically to the level of HIV risk perception among young women using Choma, and associated with age-disparate relationships with older men. This was done by means of several questions relating to perceptions, e.g. *Dating older guys (5 years or older) puts girls at more risk of HIV than dating younger guys*, and *Older guys (5 years or older) may have a wife but younger men sometimes have many girlfriends, and so older guys are safer sexual partners when it comes to STIs such as HIV*.

These were measured by using Lickert-type 3 and 5 point scales to investigate respondents' perceptions and allowed ordinal, interval and ratio measurement. In addition, respondents were asked whether they had been or were involved in age-disparate relationships and how they characterised these, which allowed for correlation between variables of HIV risk perception and experience and characterisation of age-disparate relationships, e.g.

If you date or have dated an older guy how would you describe the relationship?	
I want to fit in with my friends	
I was persuaded through gifts or money	
I felt scared to refuse or he forced me	
It is loving and supportive	
He helps me study or is getting me a job	

The second category of questions related to the extent that Choma influenced HIV risk perception and supported risk reduction. These questions involved attitudinal and behavioural components and were measured by using frequency scales to assess respondents' perceptions at between 3 and 5 levels, allowing for ordinal and interval measurement, e.g.

When it comes to using condoms older guys (5 years or older) are more difficult to negotiate using these with than younger guys?	
Yes	
No	
Unsure	

The data collected then allowed for a descriptive analysis using only averages, means and frequencies due to the method adopted.

### 3.6 Data analysis

Data was collected online via a data collection tool i.e. Survey Monkey, which automatically populated a database with all the responses received to the invitation. All the submitted fields were then imported into an Excel format and formatted into Excel Pivot tables to enable analysis. The data was coded by assigning each survey a unique identifier by means of numbering these. The survey questions were coded with their actualities, e.g. *Have you ever dated or are you dating an older guy (5 or more years older)*, used as label in the database. As the database was Excel-based, this allowed the researcher to identify question topics without the need for cross-referencing, and facilitated ease of analysis. Thereafter a data cleaning process was undertaken, which involved examining the data for unusual entries or missing data. Questionnaires were excluded if the respondent failed to confirm that they were female, 18 years old did not indicate consent or stopped responding at some point. Subsequently the data was included in the study based on correct gender, age, consent provided, responded until end, consistency of data and unique

responses. Data was then reviewed per survey question and tables were generated to display results, which then facilitated descriptive analysis.

### **3.6.1 Validity**

Face validity and the related context validity were established as outlined above in the pre-test focus group. However, the reduced sample size will most likely have impacted on the external validity and the ability to generalise the results of this research. This will be discussed in subsequent chapters.

### **3.6.2 Reliability**

Consistency appeared acceptable as responses from the pre-test group were in line with the responses online. However, due to the small sample size no reliability statistical testing was undertaken and it may not be possible to generalise these findings outside of this context.

## **3.7 Ethical considerations**

Curtis (2014:58-70) deals with ethical consideration in studies conducted online and emphasises the importance of confidentiality, privacy and ethical recruitment. These considerations further outline risks and benefits as well as extents and limits of confidentiality. All of these critical aspects were considered in the development and design of this study and are outlined below.

### **Age considerations**

According to the World Health Organization (WHO) Sexual Reproductive Health Ethical Issues (2015), the Child Care Act 74 of 1983 as amended, and the UNISA Policy on Research Ethics (2012), informed consent from parents or guardians of adolescents under 18 is required. Furthermore, in light of their perceived vulnerability, adolescents' involvement should only be considered if information could not be scientifically obtained from adults. While the general age of the Choma platform users range from 13 to 24 years, getting parental consent was neither practical in the online context nor justified in this instance, as users aged 18 years and above were likely to provide the information required for purposes of this research. As such the questionnaire therefore elicited participation only from users aged between 18 and 25 years of age.



**Incentives**

No incentives were offered for participating in the study, and all information was confidential and anonymous. In addition, respondents could only view their own responses and had no knowledge of or access to other respondents or their responses.

**Confidentiality**

This applied to both the respondents' identity and to the data. For the purpose of this research, all information was considered confidential and not revealed to any party at any stage of the research process. Once the questionnaire had been completed, it was assigned a unique identifier and this was used during data analysis. No one, including the researcher, had access to the online identity of respondents' and only these unique identifiers were used. In addition, the manner in which the questionnaires were delivered was closed. This meant that individual respondents were only able to see their own questionnaire, and at no point were respondents aware of any others that may have been participating in the research. All data will be retained for a period of 5 years in a confidential and secure manner.

**Voluntary participation**

At the outset, respondents were invited to participate of their own volition and their choosing to participate or not would in no way affect the manner in which they are able to participate on the various Choma platforms. At the informed consent phase, this and the fact that they could choose to terminate their involvement and not continue at any stage, was included in the invitation letter, so this was clear before they indicated consent.

**Provision of debriefing, counselling and additional support**

The study purpose and process were outlined in the invitation letter and respondents were invited to ask questions or access counselling online via HIVSA and other service providers. As the Choma platform already had mechanisms for private, online support and referrals, all the respondents had

access to this throughout the process. This was clearly outlined in the informed consent process, providing the mechanism for respondents to raise any concerns or questions that may have arisen. All Choma online counselling support takes place in a closed environment and in a private and confidential manner. This means that, with the exception of the assigned Choma moderator (employed by and under strict confidentiality agreement with HIVSA), no one would see any possible requests or questions that may be asked by any of the participants relating to the research. The moderator was instructed to refer any matters relating to the research directly to the researcher. No instances of this nature occurred.

### **Protection from harm and risk**

As the questions contained some sensitive content, all possible steps were taken to support the respondents and ensure they could raise questions or concerns. In the introduction to the study, respondents were invited to access online counselling services should they require these. This was further addressed by the structuring of the questions in a manner that was not overly sensitive, personal or offensive in any way.

### **3.8 Conclusion**

The data collection tools and platform were considered to be appropriate and have in the past been effective in collecting information on knowledge, attitudes and behaviours. The benefit of the platform is that it is a cost-effective way of gathering information, it is easy to access, and is known, trusted and confidential for users. It is unlikely that users provided inaccurate or 'desirable information' as they were unknown and unseen by the researcher. It is therefore highly likely that much of the data collected and used is credible and would hold up to verification if required. The appropriate sampling method, the lack of incentives, the anonymity as well as the pre-test process further contributed to the levels of reliability and validity. The sample size, however, was smaller than anticipated and this has implications for the extent to which results can be generalised, which will be commented on in more detail in subsequent chapters.

## Chapter 4: RESULTS: SOCIAL MEDIA A NEW FRONTIER IN HIV PREVENTION

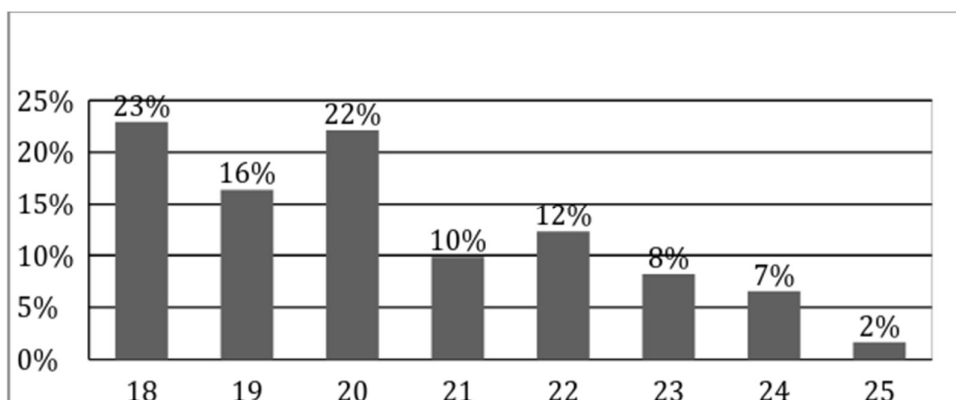
### 4.1 Introduction

The purpose of the study was to investigate whether the online social media intervention Choma influenced the perceptions among young women regarding age-disparate relationships and HIV risks. The research questions were threefold, with the first setting out to investigate perceptions among these women on HIV risk and age-disparate relationships, further to investigate whether Choma did influence this risk perception and support risk reduction. Based on the above, the study then also aimed to make recommendations for improved effectiveness of the said programme. This chapter examines each of these aspects in turn, and will attempt to discuss and interpret the significance of each in relation to the research objectives.

### 4.2 Profile of the sample

The primary source of the data used was a self-administered, online questionnaire, completed by Choma users who were all female and were aged between 18 and 25 years. A total of 266 responses were received to the online questionnaire and 122 were included in the analysis sample as they met the requirements, with 144 excluded as set out previously. As can be seen from Table 4.1 below, 61% (75) of the respondents ranged between the ages of 18 and 20 years, with the remaining 47 being aged 21 to 25 years.

**Table 4.1: Age of respondents (n=122)**



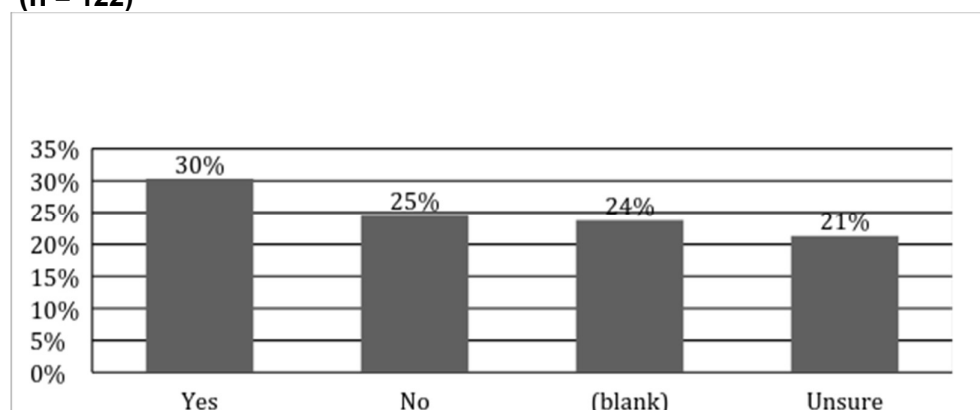
### 4.3 HIV risk perception in young women associated with age-disparate relationships

#### 4.3.1 General HIV risk perception in young women dating older men

When asked whether dating older men as opposed to younger men, puts girls at increased HIV risk, 46% (56) of the respondents reported poor risk perception. As illustrated in Table 4.2, fewer than 25% (30) responded that it did not, and 21% (26) indicated that they were unsure. Here it should be noted that 24% did not respond to this question, which (as highlighted in the previous chapter) is not uncommon in online surveys and this response pattern continued throughout.

This finding is supported by the sub-Saharan study previously referred to (Leclerc-Madlala 2002:17-25), showing that age-disparate relationships are common and often associated with poor risk perception as older men are often perceived as more responsible, less promiscuous and safer sexual partners than younger men.

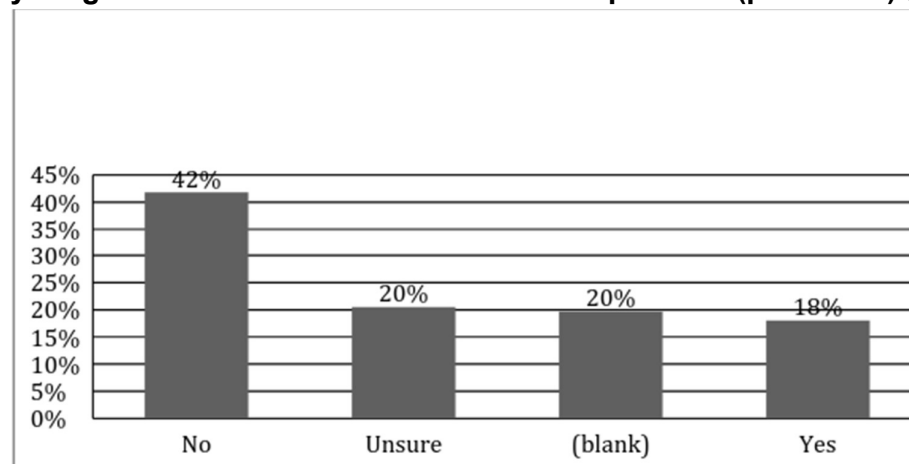
**Table 4.2: HIV risk perception related to relationships with older men (n = 122)**



In terms of unpacking HIV risk perceptions further, respondents were asked to respond to the following statement, as represented graphically in Table 4.3: *Older guys (five years or older) may have a wife but younger men sometimes have many girlfriends and so older guys are safer sexual partners when it*

comes to STIs such as HIV. This was included in the questionnaire to establish possible reasons as to why young women might incorrectly perceive the HIV risk when dating older men. Interestingly, 38% (47) of the respondents were either unsure (20%) (25) or perceived older men to be safer sexual partners (18%) (22), when it comes to risk of HIV-infection. As alluded to above and elsewhere in the literature review (Section 2.2.1), there are significant differences in risk behaviours between girls in relationships with older men compared to those of their peers, in part due to poor risk perception and perceptions that older partners are safer as they have more knowledge of sexual matters (Morrison-Beedy, Xia and Passmore 2013:3289-3297; Volpe et al 2013:2068-2087).

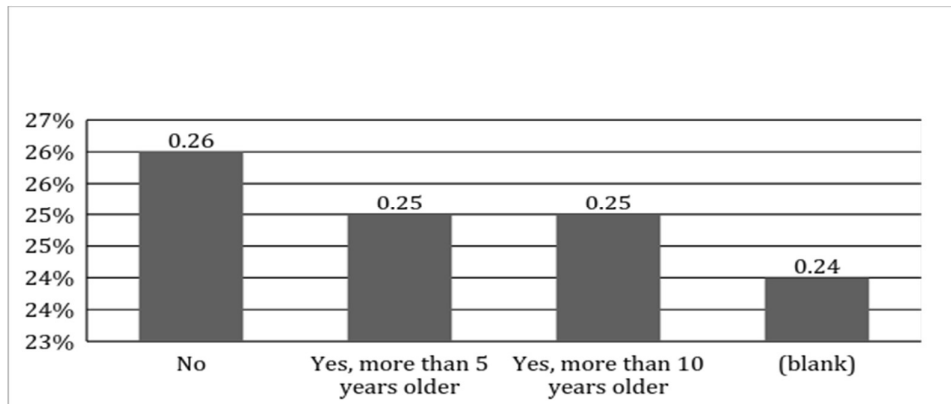
**Table 4.3: HIV risk perception of relationships with older men vs younger men related to number of sexual partners (perceived) (n = 122)**



#### **4.3.2 HIV risk perception in young women who date older men**

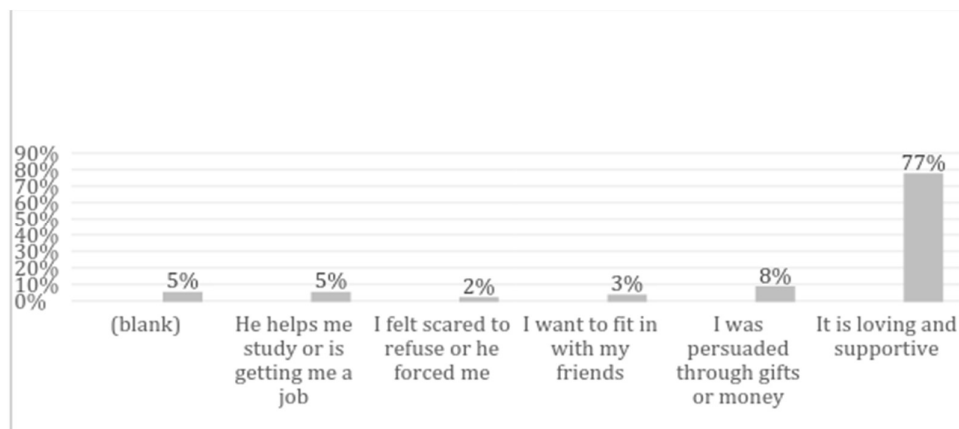
Of the 122 respondents, 61 (50%) reported that they had dated or were dating older men, with 25% (31) reporting an age gap of five years and more, and 25% (30) reporting an age gap of 10 years or more, as per Table 4.4 below. According to the HSRC (2014:68-69), as many as 33.1% of young women aged 15 to 19 years report age-disparate relationships. Bearing in mind that this study elicited responses from an older cohort (18 to 25 years) and referred to previous and current age-disparate relationships, this higher rate of reporting at 50% seems in line with the HSRC trend.

**Table 4.4: Young women who report dating older men (n = 61/122)**



Within this group who reported dating older men, 77% (54) of the respondents described these relationships as loving and supportive. In contrast, 8% (10) reported that these relationships had an economic basis, 5% that they helped with studies or job, 5% did not respond, 3% (2) felt peer pressure and 2% (1) felt coerced. See Table 4.5 below. These findings are substantiated by various studies that point to the fact that young women choose these relationships based on a number of factors including emotional, social, economic, psychological and symbolic benefits (Hawkins, Price and Mussa 2009:169-182; Jewkes and Morrell 2012:1729-1737; Leclerc-Madlala 2008:17-25; Nkosana and Rosenthal 2007:181-187; Potgieter, Strebel, Shefer and Wagner 2012:197).

**Table 4.5: Respondents' characterisation of relationships with older men**



This result is important, as it speaks to these young women's possible motivations for and perceptions of these relationships. In 77% of cases, these are characterised as being supportive and related to meeting their needs for love, affection and emotional support. As pointed out in section 1.3, this could challenge some of the commonly held notions that adolescent girls and young women often enter into such relationships mainly for financial reasons or that they are coerced into these relationships, with little agency.

#### **4.4 Effectiveness of Choma in terms of influencing these risk perceptions**

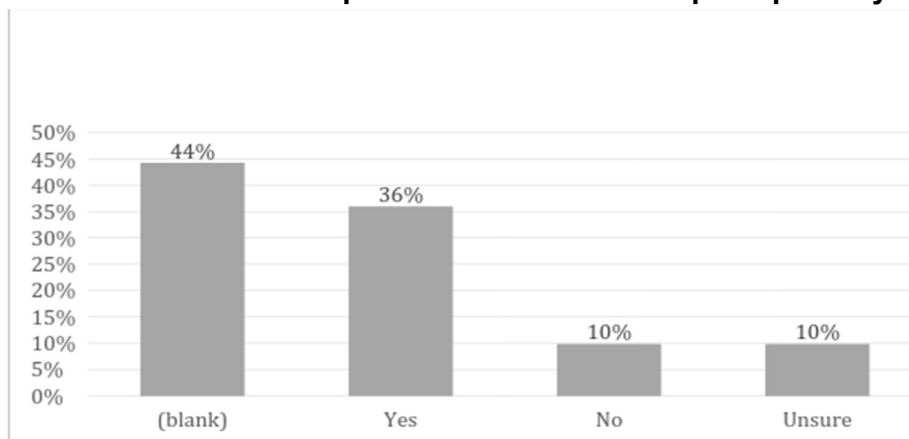
##### **4.4.1 Users' general perceptions on Choma's role in influencing HIV risk**

The focus of this section of the research was to investigate how Choma may influence HIV risk perceptions related to age-disparate relationships, and was based on self-reported views of the respondents.

On average, 36% (44) of the respondents reported that Choma had helped them better understand the HIV risk when dating older men, as outlined in Table 4.6 below. As highlighted in the literature review, various studies (Young and Rice 2010:253-259, Young and Jaganath 2014:310) have supported this and reflect that the use of online social media for HIV prevention communication is associated with increased knowledge about HIV, increased testing for STIs and a decrease in risky sexual behaviour.

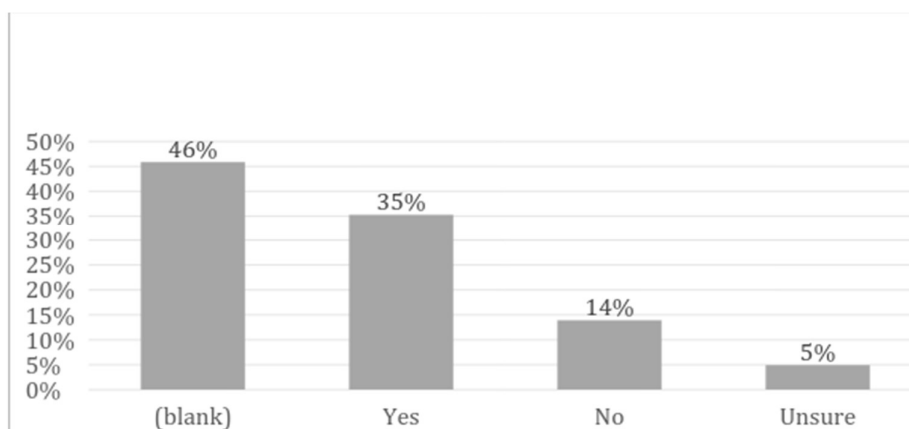
Of importance here, however, is the fact that 44% (54) (much higher than elsewhere at around 20%) left this question blank, and the assumption here is that these respondents, while exposed to general HIV prevention messaging, may not have seen content specific to age-disparate relationships which took place over a certain period.

**Table 4.6: Users' self-reported influence on risk perception by Choma**



To further 'unpack' what this meant, users were asked whether engagement with the Choma platform had influenced their perception and behaviours around knowing their own HIV status and practising safe sex. As per Table 4.7, a total of 35% (43) of users reported that Choma had motivated them to know their own HIV status.

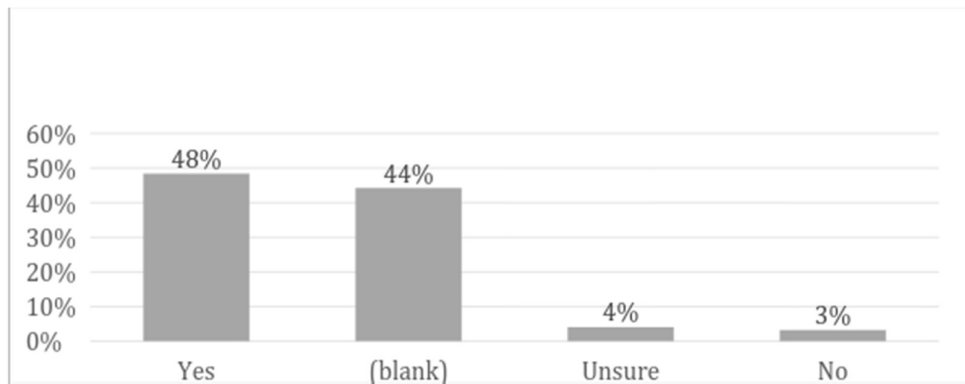
**Table 4.7: Users' self-reported influence of Choma on knowing HIV status**



Furthermore, as per Table 4.8 below, 48% (59) of users reported that Choma played a role in motivating them to always practise safe sex, with 44% skipping the question, 4% unsure and 3% stating that it did not.



**Table 4.8: Users' self-reported influence of Choma on practising safe sex**

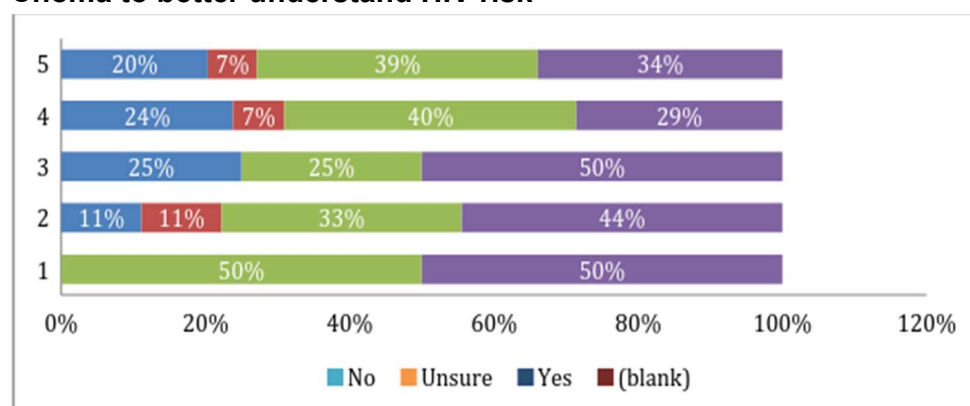


In summary, 36% (44) of the respondents reported that Choma had improved their risk perception related to dating older men. A further 35% (43) reported that Choma had motivated them to know their HIV status and 44% (59) to practise safe sex.

#### **4.4.2 Perceptions of Choma's role in influencing and reducing risk by young women dating older men**

The following section of the analysis focused on the young women 50% (61) who reported having experienced an age-disparate relationship. As is evidenced in Tables 4.9-4.11, 44% (27) of the respondents reported that Choma had helped them better understand HIV risk, 39% (24) to know their HIV status, and 58% (35) to practise safe sex, which was higher than the larger group.

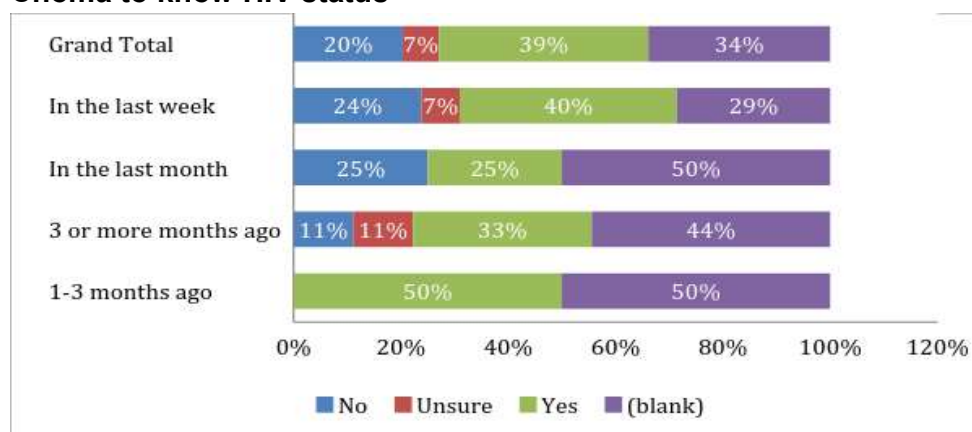
**Table 4.9: Respondents who date older men self-report on influence of Choma to better understand HIV risk**



(Note that in the last month category, only four respondents with similar low levels in Table 4.10 below, which explains the lack of representation.)

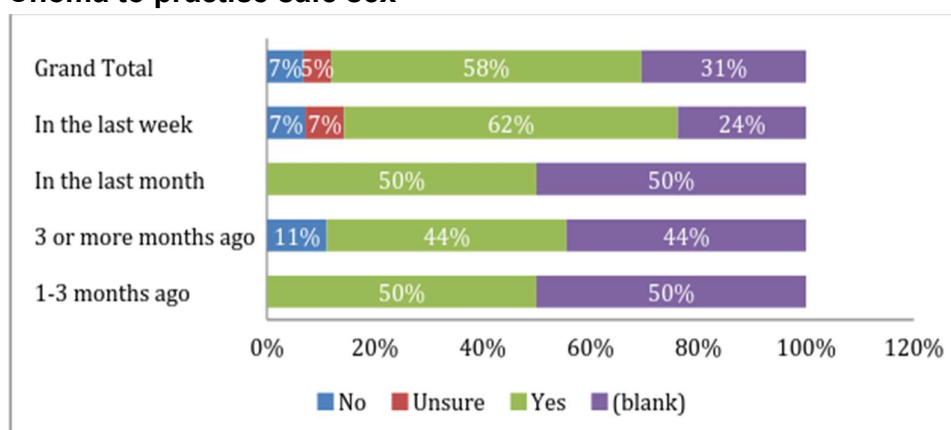
Table 4.10 indicates that overall, 39% of those dating older men reported that Choma had motivated them to know their HIV status and – as in the previous question – this was reported at similar levels between newer and older users.

**Table 4.10: Respondents who date older men self-report on influence of Choma to know HIV status**



Even better results emerged when asked whether their engagement with Choma had motivated users to always practise safer sex. Table 4.11 shows that 58% (36) of the respondents indicated that it had.

**Table 4.11: Respondents who date older men self-report on influence of Choma to practise safe sex**



As outlined in the table below, in terms of risk reduction, the results showed similar outcomes for the larger cohort of respondents, but were slightly better in the group that had experienced age-disparate relationships. In view of the limited sample size and the approximately 20% non-response rate pattern, while these results indicate a positive influence of Choma in terms of influencing HIV risk perception in this study group, a larger sample would be required to generalise these findings further.

**Table 4.12: Generally perceived influence on risk perception compared to perceived risk perception in group dating older men**

Self-reported influence on Risk perception	Total respondents n=122(ave)	Those dating older men n= 56 (ave)	Variance
Improved risk perception	36%	44%	8%
Motivated to know HIV status	35%	39%	2%
Motivated to practise safe sex	44%	58%	14%

Overall, these results suggested that 46% of the respondents had poor HIV risk perception and that engagement with the Choma platform positively influenced their HIV risk perception at 36%, with those in relationships with older men reporting this at higher levels, namely 44%.

#### **4.5 Recommendations by the respondents for improving the Choma**

The online questionnaire asked respondents several questions to gain insight into what users perceived was most relevant and what they best engaged with. While the response to preferred topics was 'lacklustre' and did not reveal much, the response by users when asked what they would like to see more of on the platform indicated that they were more interested in active participation (discussion forums) and storytelling than other types of content.

The emphasis here is on users playing a more active role in content rather than just passively consuming content. As highlighted earlier in this study, with the advent of online and social media (McNab 2009:566), the traditional one-directional communication has shifted to where users play an active role in commenting, sharing and even creating content. While traditional media such as print, television and radio TV are still seen as useful in HIV-prevention communication, it is noted that strategies need to include online and social media networks to remain relevant and effective.

#### **4.6 Conclusion**

In summary, the data collected revealed that the HIV risk related to age-disparate relationships is perceived as low by respondents. This is supported by previous South African studies alluded to previously in which Leclarc-Madlala (2002:17-25) and Toska et al (2015: 59-66) found low HIV risk perception and agency to adopt safe sexual practices, among young women in age-disparate relationships.

Users reported that the Choma platforms positively influenced their risk perception, with this being slightly higher in the young women who reported dating older men. This was at similar levels to the 2014 Choma evaluation mentioned in Chapter 2 (2.7.1 Choma Overview) and is supported by others studies which reflect role of social media is influencing attitudes, perceptions and behaviour (Ybarra et al, 2014:1562-1567, Young and Rice, 2010:253-259, Young and Jagamath, 2014:310)

Recommendations from users in terms of improving the Choma intervention included increasing user engagement and storytelling.

As indicated throughout, these findings are substantiated by various studies and support firstly that HIV risk perception is poor in age-disparate relationships, and secondly that the Choma online and social media platform plays a positive role in influencing this risk. These results will be discussed further in the following chapter.

## **Chapter 5: CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter provides an overview of the research results and sets out several recommendations for programme improvement. As outlined in Chapter 3, the main objectives of this study were identified as follows:

- To investigate perceptions among young women that used Choma, related to age-disparate sex and HIV risks;
- To investigate how Choma may have influenced HIV risk perception of adolescents and young women; and
- To make recommendations for the improved effectiveness of Choma.

With regard to objective 1, section 5.2.1 summarises the results of HIV risk perception in young women. Section 5.2.2. deals with objective 2, reflecting on the role of Choma in influencing these perceptions. In conclusion, section 5.5 addresses the third objective and recommendations for programme improvement are outlined.

### **5.2 Summary of key results**

#### **5.2.1 HIV risk perception in young women associated with age-disparate relationships with older men**

Various studies show poor HIV risk perception in age-disparate relationships is common (Morrison-Beedy et al 2013:3289-3297; Volpe et al 2013:2068-2087). In line with the growing body of evidence, this study found that poor levels of HIV risk perception related to age-disparate relationships, with as many as 46% (56) of young women indicating either that they were unsure of the risk (21% or 26), or that older men were a lower risk than younger men (25% or 29).

This was based on the reported perception by 38% (46) of these women, that younger men are more likely to be promiscuous, while an older man, despite the fact that he may be married, is seen as less likely to be promiscuous. Based

on this result it would appear that poor risk perception is, at least to some degree, influenced by the manner in which young women view these relationships “as safe” and that this may influence their choice of sexual partners and sexual behaviour. This result is substantiated by a review of regional studies undertaken by Leclerc-Madlala (2002:17-25), who found that young women often viewed older men as safer and less risky sexual partners than younger men.

This study found that in total 50% of young women reported that they had been or were in a relationship with an older man. While this was somewhat higher than the 33.1% reported for 15-19-year-olds by the HSRC (2014:68-69), it is noted that the study involved an older group, i.e. 18 to 25 year-olds who were reporting on past or current age-disparate relationships, which would account for the higher level. Of the 50% of young women reporting having been or currently being in such a relationship, 25% of the respondents reported relationships with men five years or more their senior, and the remaining 25% with men 10 years or more their senior.

Most of these young women (77%) reported that these relationships were perceived as loving and supportive. These results are relevant, as perceiving these relationships in this manner is likely to play a role in terms of how young women perceive their HIV risk in such relationships. If the older male partner is perceived as loving and supportive, it is also likely that the young women will view the relationship as one based on care, concern and protection from harm. When love and trust form the basis for defining the relationship, it is less likely that concern for HIV risk is high on the agenda. In addition to seeing the relationship as caring and therefore ‘safe’, the young women may also hold the view that the older men are experienced in sexual matters and ‘know better’, not to mention the perception outlined above that older men are less promiscuous.

It is therefore likely that these views play some role in influencing young women's perception of the HIV risk when dating older men. This perception is likely to affect the choice of partners and also limit safe sexual behaviour – and the need to negotiate condom use may be seen as 'unnecessary'. In this context, adolescent girls and young women see themselves as active respondents in relationships based on love and affection, rather than being victims of financial circumstances and, while there may be a transactional element, this is not the main way in which these relationships are defined. As pointed out by Leclerc-Madlala (2002:17-25), these relationships often provide opportunities for love, companionship, finding a husband or boyfriend, impressing peers, boosting self-esteem, acquiring social status, having fun and going places.

This provides insight into the various levels of risk perception that may influence young women's choice of sexual partner and sexual behaviour in age-disparate relationships. These factors could add value if considered when interventions look to address risk behaviour related to age-disparate relationships.

There are, however, other implications for understanding HIV risk when viewed through a feminist lens, which would highlight that these perceptions are influenced by broader gender norms, are based on hegemonic male and female roles and are largely socially constructed. This understanding would imply that focusing on individual sexual behaviour has limited value and that there is a need for interventions to also be mindful of these and other structural drivers (culture etc.) and how they may influence the ways in which HIV risk is constructed, perceived and negotiated in sexual relationships.

### **5.2.2 Effectiveness of Choma in influencing HIV risk and supporting risk reduction**

The Choma intervention seeks to empower at an individual and a group or community level. At an individual level this is done by educating and informing young women on their rights, as well as how they can go about exercising these rights by accessing SRH services and support. At a group level this is done by



creating dialogue and debate between Choma and users as well as peer to peer, to challenge risk perceptions, share and support consensus building and norm change. It is conceptualised not just as intrapersonal (within one person) but also as interpersonal (between different persons) within a social space, albeit an online space. While empowerment is aimed at both the interpersonal and intrapersonal levels, as articulated above and in previous chapters, the focus of this study is on the individual rather than the interpersonal level, and in particular the level of individual HIV risk perception among young women associated with age-disparate relationships.

There is growing evidence that supports the use of online social media for HIV prevention and empowerment communication to increase knowledge and reduce risky sexual behaviour (Young and Rice 2010:253-259, Young and Jaganath 2014:310). In line with these results, this study has provided some evidence that supports the positive influence of Choma in terms of supporting risk reduction, with this reported at 38% generally and 44% for those (having been) involved in age-disparate relationships. This was further broken down into two behaviour variables, i.e. motivation to know HIV status and practising safe sex. In the larger group this was reported at 37% for HIV status and 50% for safe sex, with these figures slightly higher for the group reporting age-disparate relationships, namely at 39% and 50% respectively. Of possible relevance and for further research is the fact that young women who had reported having age-disparate relationships, reported changes in risk perception, at higher levels than those that did not report experience of such relationships.

### **5.3 Limitations of study**

Sample size and criteria – Of the total 266 respondents, only 122 could be included based on the criteria (consent, age, completion). This reduced the sample size significantly. As the research had aimed for a minimum of 125 this is considered a limitation, as a larger sample would have provided more statistically significant and reliable numbers.

Self-reported data – It should be noted that all the responses are based on self-reported data and it is possible that some of the recorded responses are not accurate. However, the researcher does consider this to be unlikely as there were no incentives involved and responses were completely confidential and anonymous.

#### **5.4 Suggestions for further research**

While there is some evidence for the positive influence of the Choma intervention on HIV risk perception, more research is needed to better understand the following:

- The results found similar levels of influence on risk perception in both new and more frequent users, which was especially marked in the group that had dated older men. It would therefore be necessary to understand how even short exposure had positive results, and why those dating older men reported this at higher levels.
- Possible links between reported HIV risk perceptions and behaviour and 'real-life' actions, and the possible gap between the two, need to be studied.
- Age considerations and possible relevance to a younger age cohort may reveal similarities or differences that would inform programme improvement.

Understanding these factors could provide further insight into the ways in which users are seeking and engaging with the Choma intervention, and could have implications for the design and improvement of its communication strategies.

In this regard a qualitative approach could better interrogate and address questions such as whether a small dosage of relevant content could be significant in influencing HIV risk perception, and whether this related to the users' specific context or experience, i.e. if information is more relevant to users

they may be more likely to be receptive and to attend to and integrate risk reduction messages.

It could also be recommended that further research should consider a mixed methods design, as in the online context a purely quantitative approach may have some limitations.

## **5.5 Recommendations for programme improvement**

### **5.5.1 Better understanding of user perceptions of risk**

In this research, while content was relevant and generally well received, it made certain assumptions and judgements without a full understanding of the users' perception on the subject matter. For example, many young women viewed their relationships with older men as primarily fulfilling emotional needs rather than having a transactional nature, as is often commonly assumed.

When planning future communication and engagement strategies, therefore, the opportunity this research has highlighted is for Choma to use the channel to get direct input from users and then to design content and engagement based on this. This channel could accommodate mechanisms that would allow for the continuous input, review and assessment of perceptions on a range of topics that influence HIV risk. These inputs could, in turn, provide opportunities for content and engagement that target HIV risk perceptions more directly.

### **5.5.2 Leveraging success factors**

During the course of the research, and bearing in mind the positive response from users, several successful strategies were noted and should be further developed and enhanced:

- Non-judgemental approach – A theme that came across strongly in users' comments related to content was the feeling of 'being judged' and it seems particularly important when working with youth that communication is not perceived in this manner. Judgemental

communication (perceived or actual) is likely to create a barrier that will influence how it is viewed and taken into account or dismissed when forming opinions and perceptions

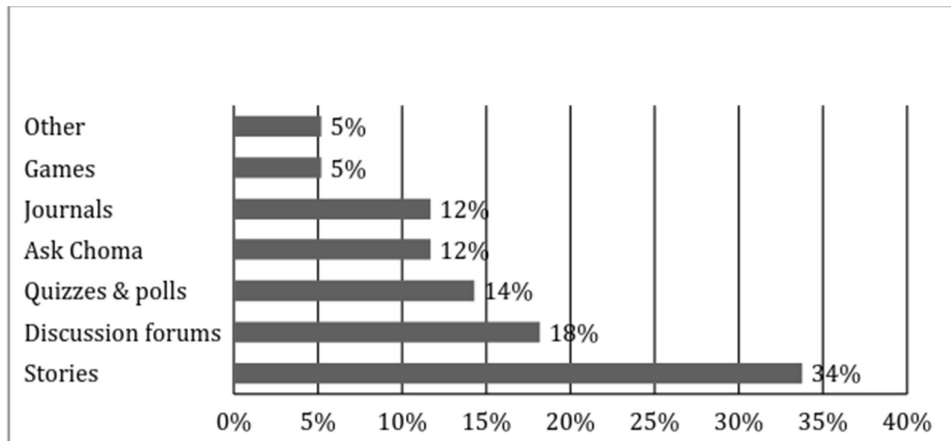
- Active engagement – Users are looking for a platform that allows for comment, sharing, a ‘like’ facility, and quizzes – to name a few. In the first example below, there is no engagement from users, unlike the second example that reached more people, was ‘liked’ and commented on. Another observation was that users were more engaged when there was a call to action.



### 5.5.3 Recommendation for content design improvement

As noted earlier in this section, users indicated that they would like to see the inclusion of storytelling on the Choma platform (see Table 4.13). The Choma intervention should consider getting users (peers) to contribute to content as this could provide an important way of improving engagement with users. Tremendous engagement was seen between users related to research content, which took on a character and importance beyond the initial communication. This could be used to great effect and to further enhance communication strategies.

**Table 5.1: What users would like to see more of?**



## 5.6 Conclusion

Summarising the results on HIV risk perceptions, it is noted that poor HIV risk perception (48%) among respondents may be influenced by the (38%) perception that older man are 'safer' sexual partners than younger men. This needs to be considered in the context where, 50% of young women reported that they were – or had been – involved in age-disparate relationships. Of further importance is that 77% of the respondents perceived these relationships as loving and supportive. These results may challenge some of the common perceptions of these age-disparate relationships as being primarily economically based. The results further highlight that the perceptions of young women of these relationships as being mainly loving and supportive, could provide insight into possible reasons why these young women are at increasingly high HIV risk, even though they are most likely aware of HIV risk factors, and ways to protect themselves. Interventions such as Choma would need to understand and address these dynamics in HIV prevention communication strategies.

In terms of efficacy of Choma to influence HIV risk perceptions overall, the results showed similar outcomes for the larger cohort of respondents (n=122 at 38%), as well as those that reported dating or having dated older men (n=61 at

50%). The research found that within the study sample Choma played a positive role in terms of influencing HIV risk perception, more specifically self-reported motivation related to knowing one's own HIV status and practising safe sex.

Overall, respondents who reported having been involved in relationships of this nature, perceived these to be loving and supportive, with associated low HIV risk perception. As highlighted in Chapter 2, various researchers have found that agency and by extension, risk perception, is often mitigated by a number of social and structural factors such as gender and socio-economic status. Specifically in age-disparate relationships this reduces the agency of young women to adopt safe sexual practices. While young women may perceive themselves as having agency, it could be argued that this is in fact limited by various social determinants. (Hawkins, Price and Mussa 2009:169-182; Jewkes and Morrell 2012:1729-1737; Leclerc-Madlala 2008:17-25; Nkosana and Rosenthal 2007:181-187; Potgieter, Strebel, Shefer and Wagner 2012:197). While at the individual level HIV risk perception improvement is evident by using social media such as Choma, this then raises several further questions: how is HIV risk perception and agency related to this, mitigated by socio-economic drivers and how can or should online social media communication strategies be used to address these complex dynamics, both at a micro (individual) and macro (social) level to be more effective? The critique levelled by Campbell (2003) at HIV-prevention programmes could apply here, as while we see some individual benefits, an understanding of how to leverage social media in a way that addresses both the individual and social dynamics, that shape perceptions and behaviour, is required if we are to meaningfully address HIV risk perception.

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## **INDICES**

**A:** Letter of permission from HIVSA

**B:** Unisa Ethical Clearance

**C:** Letter of Introduction and Informed Consent

**D:** Questionnaire